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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590

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EXAMINER

ABDELNOUR, DENNIS J

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,337

Applicant(s)

HOSLE, HELMUT

Examiner

Dennis J. Abdelnour

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 02 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

The following is an action in response to the amendment received December 2, 2002, Paper No. 08. Claims 1, 8, and 13 have been amended. Claims 14-18 have been added. Claims 1-18 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, line 2, the phrase "on a respective at least on shaft" renders the claim indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4, 7, 10, and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP 07229471 A).

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Takahashi shows in Figure 1 a transmission for a wind generator including a stationary housing (not numbered), a rotor 4 supported in the housing, a planetary gear reduction stage, and a spur gear stage. Annular gear carrier is integral with the rotor 4 and carries annular gear 10, within which is found the planetary gear reduction stage. The planetary gear stage outputs rotation through sun gear 9 which is attached to spur gear 16 on shaft 15 which is mounted for resilient axial movement. Spur gear 16 drives output shaft 5 to power a generator 3 of the wind power assembly. Rotor 4 is formed integrally with a rotor head which holds the wind-driven blades 1 as best shown in Figure 3.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Arvidsson (USPN 6,082,901).

Takahashi has been described above in paragraph 4. Takahashi further shows a pair of sliding contact bearings supporting the rotor in the housing, as well as an embodiment where bearings 18 are shown as absorbing axial forces in Figure 2. Takahashi does not disclose an oil pump for raising the bearings hydrostatically or means for controlling the oil pump.

Arvidsson discloses hydraulic axial bearings for a radial mounted axle which are controlled by an oil pump.

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include hydraulic axial bearings as taught by Arvidsson in order to decrease the amount of friction in the bearings.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Huebl et al. (USPN 4,383,520).

Takahashi has been described above in paragraph 4. Takahashi does not show the annular gear fixed to the annular gear carrier by a toothed coupling or by means of a press fit.

Huebl et al. shows shaft 70 mounted with spur gear 33 by a shrink fit, and that "it is also possible to design the pinion and the shaft in one piece and to connect them through a radially toothed coupling" (col.4, lines 47-50). Both means of attachment between gears and carriers or shafts supporting the gears are well known in the art.

It would have been obvious to one having ordinary skill in the art to modify Takahashi by connecting the gear carrier and the gear by means of a toothed coupling or a press fit as taught by Huebl et al. in order to simplify assembly.

8. Claim 8-9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Kekki et al. (USPN 6,176,804).

Takahashi has been described above in paragraph 4. Takahashi does not disclose a bearing cover secured to the housing, with bearings for the spur gear stage supported in the bearing cover, nor does Takahashi disclose gears having helical teeth, or a flanged housing supporting the spur gear stage with two output shafts.

Kekki et al. shows in figure 6B bearing cover 60 connected to the housing and supporting bearings for the spur gear stage within. Also shown in Figure 9A is an illustration of the helical

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toothings 16' connected with the sun gear 16, with corresponding helical tooth forms provided on the planet gears and on the ring gear.

Additional backup flange housing 40 is provided (Figure 6A) along with first and second output shafts 23 and 26.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include a bearing cover attached to the housing including bearings for the spur gear stage as taught by Kekki et al. in order to contain the flow of fluid within the transmission.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to utilize gears having helical teeth as taught by Kekki et al. in order to transmit an axial force.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include a second output shaft and a flanged housing containing the spur gear stage as taught by Kekki et al. in order to simplify assembly and to power an additional generator.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Weil. (USPN 5,529,566).

Takahashi has been described above in paragraph 4. Takahashi does not disclose a sensor recording the axial force of the sun gear shaft.

Weil discloses a sensor means for measuring an axial force imparted on a scroll, whereby utilizing one or several axial bearings having axial force sensors. See col. 6, lines 1-4.

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi by utilizing the axial bearings having axial force sensors as taught by Weil in order to determine axial forces and determine if such forces become problematic.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Lev et al. (USPN 6,170,156).

Takahashi has been described above in paragraph 4. Takahashi does not disclose surface-hardened annular gear teeth.

Lev et al. discloses a gear tooth shaping process in planetary gear assemblies utilizing surface-hardened teeth.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi by using surface-hardened gear teeth as taught by Lev et al. in order to improve the transmission's fatigue life.

Response to Arguments

11. Applicant's arguments filed December 2, 2002 have been fully considered but they are not persuasive. Applicant has argued that the term "planetary transmission stage" is used broadly enough to encompass an arrangement of a rotor driven ring gear, and planet wheels on fixed axes which drive a central sun gear, and that it is not contrary to accepted meanings. However, this does not preclude the prior art from reading on the invention as claimed.

The applicant also argues that the JP '471 reference does not suggest a rotor supported by a housing, and further the planetary gear set is not suggested to be supported in a housing, let

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alone the same housing as the rotor. The examiner respectfully disagrees. Figure 3 clearly shows rotor 4 and transmission mechanism 2 supported in housing 6.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis J. Abdelnour whose telephone number is (703) 305-5309. The examiner can normally be reached on Monday-Friday, 8:00-5:30, alternate Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703) 308-0830. The fax phone numbers for


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the organization where this application or proceeding is assigned are (703) 305-3597 for regular communications and (703) 305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

dja


January 27, 2003


RODNEY H. BONCK
PRIMARY EXAMINER
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